

AMENDMENTS TO THE CLAIMS

1-4. (Cancelled)

5. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to wirelessly receive data to be deframed ~~in~~ from one or more Radio Link Protocol (RLP) packets;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values, the detection unit is operative to detect for flag and escape bytes on the received data, wherein the received data is PPP packet data;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values; and

a conversion unit operative to deframe the received data based on the first set of control signals to provide deframed data, the conversion unit being operative to remove flag and escape bytes in the received data.

6. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to wirelessly receive data to be deframed;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values and operative to detect for and remove flag and escape bytes in the received data, wherein the received data is PPP packet data;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values; and

a conversion unit operative to deframe the received data based on the first set of control signals to provide deframed data and further operative to un-escape a data byte following each detected escape byte in the received data.

7. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

- an input interface unit operative to wirelessly receive data to be deframed;
- a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values and operative to detect for flag and escape bytes in the received data, wherein the received data is PPP packet data;
- a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values; and
- a conversion unit operative to deframe the received data based on the first set of control signals to provide deframed data and further operative to provide a header word for each detected flag byte in the received data.

8-14. (Canceled)

15. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

- an input interface unit operative to wirelessly receive data to be deframed;
- a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;
- a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values; and
- a conversion unit operative to deframe the received data based on the first set of control signals to provide deframed data, and operative to deframe a block of data for each deframing operation, and further operative to provide a first header for a start of the data block, wherein the received data is PPP packet data.

16. (Canceled)

17. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to wirelessly receive data to be deframed;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value; and

a conversion unit operative to deframe the received data based on the first set of control signals to provide deframed data,

wherein the deframer is in one of a plurality of operating states at any given moment, and wherein the operating states include an idle state indicative of no deframing being performed and a process state indicative of deframing being performed, and wherein the operating states further include an escape state indicative of processing for an escape byte and a header state indicative of generation of a header for the deframed data wherein the received data is PPP packet data.

18. (Currently Amended) A deframer for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to wirelessly receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing, and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662;

a detection unit operative to evaluate each data byte from the input interface unit to detect for flag, escape, and invalid bytes;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value;

a conversion unit operative to deframe the received data based on the first set of control signals and to process each data byte from the interface unit by removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte,

and checking each deframed packet based on a frame check sequence (FCS) value associated with the packet, wherein the received data is PPP packet data; and
an output interface unit operative to provide deframed data.

19. (Currently Amended) An integrated circuit for a wireless communication device to recover Point-to-Point Protocol (PPP) packet data which has been framed in Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to wirelessly receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing, and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662;

a detection unit operative to evaluate each data byte from the input interface unit to detect for flag, escape, and invalid bytes;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value;

a conversion unit operative to deframe the received data based on the first set of control signals and to process each data byte from the interface unit by removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte, and checking each deframed packet based on a frame check sequence (FCS) value associated with the packet, wherein the received data is PPP packet data; and

an output interface unit operative to provide deframed data.

20-25. (Canceled)

26. (Currently Amended) A framer for a wireless communication device to frame Point-to-Point Protocol (PPP) packet data into Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to receive data to be framed in one ore more Radio Link Protocol (RLP) packets;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific task to be performed for framing based in part on the detected bytes of specific values; and

a conversion unit operative to frame the received data based on the first set of control signals and to provide framed data, the conversion unit is operative to insert an escape byte upon detection of a data byte having one of the specific values, wherein the received data is Point-to-Point Protocol (PPP) packet data.

27-32. (Canceled)

33. (Currently Amended) A framer for a wireless communication device to frame Point-to-Point Protocol (PPP) packet data into Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to receive data to be framed in one or more Radio Link Protocol (RLP) packets;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be preformed for framing based in part on the detected bytes of specific values; and

a conversion unit operative to frame the received data based on the first set of control signals and to provide framed data;

wherein the framer is in one of a plurality of operating states at any given moment, and wherein the operating states include an idle state indicative of no framing being preformed and a process state indicative of framing being preformed, the operating states further include an escape state indicative of processing for an escape byte, wherein the received data is Point-to-Point Protocol (PPP) packet data.

34-35. (Canceled)

36. (Currently Amended) A framer for a wireless communication device to frame Point-to-Point Protocol (PPP) packet data into Radio Link Protocol (RLP) packets, comprising:

an input interface unit operative to receive a packet of data to be framed in one or more Radio Link Protocol (RLP) packets, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be preformed for framing based in part on the detected bytes of specific values;

a conversion unit operative to frame the received data based on the first set of control signals and to process each data byte from the interface unit to frame the received data by inserting an escaped byte for each data byte to be escaped and escaping the data byte, inserting a flag byte in response to receiving a first command, and inserting an FCS value in response to receiving a second command, wherein the received data is Point-to-Point Protocol (PPP) packet data; and

an output interface unit operative to provide framed data having a format defined by RFC1662.

37-52. (Canceled)